

## PATENT COOPERATION TREATY

PCT

## NOTIFICATION OF ELECTION

(PCT Rule 61.2)

From the INTERNATIONAL BUREAU

To:

Assistant Commissioner for Patents  
 United States Patent and Trademark  
 Office  
 Box PCT  
 Washington, D.C. 20231  
 ÉTATS-UNIS D'AMÉRIQUE

in its capacity as elected Office

<b>Date of mailing</b> (day/month/year) 09 March 2000 (09.03.00)	
<b>International application No.</b> PCT/US99/15871	<b>Applicant's or agent's file reference</b> BB1170
<b>International filing date</b> (day/month/year) 13 July 1999 (13.07.99)	<b>Priority date</b> (day/month/year) 14 July 1998 (14.07.98)
<b>Applicant</b> ALLEN, Stephen, M. et al	

1. The designated Office is hereby notified of its election made:



in the demand filed with the International Preliminary Examining Authority on:

07 February 2000 (07.02.00)



in a notice effecting later election filed with the International Bureau on:

2. The election ☒ was

was not

made before the expiration of 19 months from the priority date or, where Rule 32 applies, within the time limit under Rule 32.2(b).

<b>The International Bureau of WIPO</b> 34, chemin des Colombettes 1211 Geneva 20, Switzerland	<b>Authorized officer</b> Philippe Bécamel
Facsimile No.: (41-22) 740.14.35	Telephone No.: (41-22) 338.83.38

## PATENT COOPERATION TREATY

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REC'D 12 DEC 2000

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## INTERNATIONAL PRELIMINARY EXAMINATION REPORT

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference BB1170	<b>FOR FURTHER ACTION</b> See Notification of Transmittal of International Preliminary Examination Report (Form PCT/IPEA/416)	
International application No. PCT/US99/15871	International filing date (day/month/year) 13/07/1999	Priority date (day/month/year) 14/07/1998
International Patent Classification (IPC) or national classification and IPC C12N15/54		
Applicant E. I. DU PONT DE NEMOURS AND COMPANY et al.		
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 9 sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of sheets.</p>		
<p>3. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"><li>I <input checked="" type="checkbox"/> Basis of the report</li><li>II <input type="checkbox"/> Priority</li><li>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</li><li>IV <input checked="" type="checkbox"/> Lack of unity of invention</li><li>V <input checked="" type="checkbox"/> Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</li><li>VI <input type="checkbox"/> Certain documents cited</li><li>VII <input type="checkbox"/> Certain defects in the international application</li><li>VIII <input type="checkbox"/> Certain observations on the international application</li></ul>		
Date of submission of the demand 07/02/2000	Date of completion of this report 05.12.2000	
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized officer Predazzi, V Telephone No. +49 89 2399 7518 	

# INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No. PCT/US99/15871

## I. Basis of the report

1. This report has been drawn on the basis of *(substitute sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to the report since they do not contain amendments (Rules 70.16 and 70.17).):*

### Description, pages:

1-24 as originally filed

### Claims, No.:

1-18 as originally filed

### Drawings, sheets:

1/8-8/8 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
- ☐ the language of publication of the international application (under Rule 48.3(b)).
- ☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
- ☐ filed together with the international application in computer readable form.
- ☐ furnished subsequently to this Authority in written form.
- ☐ furnished subsequently to this Authority in computer readable form.
- ☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
- ☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
- ☐ the claims, Nos.:

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☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)):

*(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)*

6. Additional observations, if necessary:

**IV. Lack of unity of invention**

1. In response to the invitation to restrict or pay additional fees the applicant has:

- ☐ restricted the claims.  
☐ paid additional fees.  
☐ paid additional fees under protest.  
☒ neither restricted nor paid additional fees.

2. ☐ This Authority found that the requirement of unity of invention is not complied and chose, according to Rule 68.1, not to invite the applicant to restrict or pay additional fees.

3. This Authority considers that the requirement of unity of invention in accordance with Rules 13.1, 13.2 and 13.3 is

- ☐ complied with.  
☒ not complied with for the following reasons:  
**see separate sheet**

4. Consequently, the following parts of the international application were the subject of international preliminary examination in establishing this report:

- ☐ all parts.  
☒ the parts relating to claims Nos. 1-6 and 13-18 partially..

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. Statement

Novelty (N)	Yes:	Claims 1-6 and 13-18
	No:	Claims
Inventive step (IS)	Yes:	Claims
	No:	Claims 1-6 and 13-18

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Industrial applicability (IA)	Yes:	Claims	1-6 and 13-18
	No:	Claims	

2. Citations and explanations  
**see separate sheet**

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

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**Re Item I**

**Basis of the opinion**

Application as filed.

**Re Item IV**

**Lack of unity of invention**

1. Reference is made to the following documents:

D1: WO 98 00549 A (WILLIAMSON RICHARD EDWARD ;PENG LIANGCAI (AU); ARIOLI ANTONIO (AU)) 8 January 1998 (1998-01-08)

D2: ARIOLI, T., ET AL.: 'Arabidopsis thaliana cellulose synthase catalytic subunit (RSW1) gene complete cds' EMBL ACCESSION NO:AF027172, 3 February 1998 (1998-02-03), XP002124282 -& ARIOLI, T. ET AL.: 'Molecular analysis of cellulose biosynthesis in Arabidopsis' SCIENCE, vol. 279, 30 January 1998 (1998-01-30), pages 717-720, XP002124283 & ARIOLI, T., ET AL.: 'Cellulose synthase catalytic subunit' TREMBL ACCESSION NO:O48946, 1 June 1998 (1998-06-01),

D3: WO 98 18949 A (CALGENE INC ;PEAR JULIE R (US); STALKER DAVID M (US); DELMER DEBOR) 7 May 1998 (1998-05-07)

D4: PEAR, J.R., ET AL.: 'Gossypium hirsutum cellulose synthase (celA2) mRNA, partial cds' EMBL ACCESSION NO:U58284, 13 December 1996 (1996-12-13), XP002124438 -& PEAR, J.R., ET AL.: 'HIGHER PLANTS CONTAIN HOMOLOGS OF THE BACTERIAL CELA GENES ENCODING THE CATALYTIC SUBUNIT OF CELLULOSE SYNTHASE' PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF USA, vol. 93, October 1996 (1996-10), pages 12637-12642, XP002061424 & PEAR, J.R., ET AL.: 'Cellulose synthase fragment' TREMBL ACCESSION NO:P93156, 1 May 1997 (1997-05-01),

2. The International Preliminary Examination Authority agrees with the objection raised by the International Search Authority concerning the fact that the application does not comply with the requirement of unity of invention (Article 34(3) and Rules 13 and 68 PCT).
- 3.a. An international application must relate to one invention only or to a group of

inventions so linked as to form a single general inventive concept.

- b. Unity of invention is fulfilled only when there is a technical relationship among the inventions involving one or more of the same or corresponding special technical features, special technical features being such features that define a contribution which each of the claimed inventions, considered as a whole, makes over the prior art.
- c. The technical relationship among the present subject matter of claims 1-18 is "**plant cellulose synthases**". However, this relation cannot be accepted to consist of a special technical feature as defined above since it does not define a contribution which each of the different claimed inventions, considered as a whole makes over the prior art. In fact several plant cellulose synthases and their use in genetic expression systems had been known in the prior art (see. e.g. D1 page 4, lines 8-14, page 7, lines 5-9 and 19-22, D2 page 717, abstract, page 719, figure 3, D3 page 1, introduction, D4 page 12637, abstract, page 12640, figure 3).
- d. The contributions claimed in the present application which are allegedly made over the prior art are:
  - 1) **Claims 1-6, 13-18 partially**: Nucleic acid fragments encoding *Hordeum vulgare* **cellulose synthase** (barely) and the corresponding polypeptide (SEQ ID NO 1 and 2), fragments encoding amino acid sequences 90% identical to SEQ ID NO 2, transformed hosts containing said sequences in the form of chimeric genes and methods for obtaining said sequences, methods for altering the expression of cellulose synthase and methods for evaluating compounds for their ability to inhibit cellulose synthase using said sequences;
  - 2) **Claims 1-6, 13-18 partially and 7-12 completely**: Nucleic acid fragments encoding *Zea mays* **cellulose synthase** and the corresponding polypeptide (SEQ ID NO 3-10), fragments encoding amino acid sequences 90% identical to SEQ ID NO 6 and 80% identical to SEQ ID NO 4, 8 and 10, transformed hosts containing said sequences in the form of chimeric genes and methods for obtaining said sequences, methods for altering the expression of cellulose synthase and methods for evaluating compounds for their ability to inhibit cellulose synthase using said sequences;

- 3) **Claims 1-6, 13-18 partially**: Nucleic acid fragments encoding *Oryza sativa* **cellulose synthase** and the corresponding polypeptide (SEQ ID NO 11 and 12), fragments encoding amino acid sequences 90% identical to SEQ ID NO 12, transformed hosts containing said sequences in the form of chimeric genes and methods for obtaining said sequences, methods for altering the expression of cellulose synthase and methods for evaluating compounds for their ability to inhibit cellulose synthase using said sequences;
- 4) **Claims 1-6, 13-18 partially**: Nucleic acid fragments encoding *Glycine max* **cellulose synthase** and the corresponding polypeptide (SEQ ID NO 13-18), fragments encoding amino acid sequences 90% identical to SEQ ID NO 14, 16 and 18, transformed hosts containing said sequences in the form of chimeric genes and methods for obtaining said sequences, methods for altering the expression of cellulose synthase and methods for evaluating compounds for their ability to inhibit cellulose synthase using said sequences;
- 5) **Claims 1-6, 13-18 partially**: Nucleic acid fragments encoding *Triticum sativum* **cellulose synthase** and the corresponding polypeptide (SEQ ID NO 19-22), fragments encoding amino acid sequences 90% identical to SEQ ID NO 20 and 22, transformed hosts containing said sequences in the form of chimeric genes and methods for obtaining said sequences, methods for altering the expression of cellulose synthase and methods for evaluating compounds for their ability to inhibit cellulose synthase using said sequences;
- 6) **Claim 18 partially**: A method for evaluating the ability of a compound to inhibit the activity of a **plant cellulose synthase** comparing the activity of a cellulose synthase produced in a transformed host with and without the addition of said compound.

These contributions are not so linked as to form one single inventive concept. Hence, the presently claimed falls apart in the above listed (from 1 to 6) groups of inventions which are not unitarian.

4. As the Applicant has not answered to the invitation to pay for additional fees, this Authority will establish the international preliminary examination report on those



parts of the international application which appears to relate to the main invention as established in Article 34 (3) (c) PCT which is, in this case, considered to be represented by invention number 1 as indicated by Rule 68.5 PCT.

**Re Item V**

**Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

1. The subject-matter of claims 1-6 and 13-18 does not involve an inventive step in the sense of Article 33 (3) PCT.
2. **D1, which is considered to represent the closest prior art discloses plant cellulose synthases** nucleic acid and amino acid sequences (from *Arabidopsis thaliana*) (cf. D1 SEQ ID NO: 1-14) and the use of said gene in gene constructs for cellular and plant transformation in order to alter the expression of cellulose synthase in said transformants (cf. D1 page 7 lines 24-29 and pages 16-22). D1 also indicates methods to further isolate nucleic acid fragments encoding all or substantial portions of the amino acid sequence encoding a cellulose synthase probing cDNA libraries with the nucleic acids disclosed or with synthetic oligonucleotides molecules (cf. D1 page 10 lines 21-30, page 11 lines 1 and 2). D1 also clearly indicates, among the plants of interest for the isolation of cellulose synthase genes and for the purposes described above, barely (cf. D1 page 4 lines 16 and 17, page 8 lines 18-21, page 16 lines 3 and 28, page 17 line 14, page 19 lines 7 and 29, page 26 line 17 etc.).
3. The difference between D1 and the present application lies in the cellulose synthase nucleotide and amino acid sequences disclosed.
4. The problem to be solved may therefore be regarded as how to provide cellulose synthase sequences alternative to the ones disclosed in D1.
5. The Applicant solves the problem by comparing sequences obtained by barely cDNA libraries with the sequences encoding cellulose synthase from *Arabidopsis thaliana*.

**INTERNATIONAL PRELIMINARY  
EXAMINATION REPORT - SEPARATE SHEET**

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6. Starting from D1 and following the clear indications of D1 on how to provide cellulose synthase sequences from suitable plants (as barely among the others suggested by D1), the person skilled in the art would have solved the problem posed in the same way as the Applicant without any use of inventive skill. Hence, claims 1-6 and 13-18, representing invention 1 of the present application, are not fulfilling the requirements of Article 33 (3) PCT.

## PATENT COOPERATION TREATY

## PCT

## INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference <b>BB1170</b>	<b>FOR FURTHER ACTION</b> see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. <b>PCT/US 99/ 15871</b>	International filing date (day/month/year) <b>13/07/1999</b>	(Earliest) Priority Date (day/month/year) <b>14/07/1998</b>
Applicant <b>E. I. DU PONT DE NEMOURS AND COMPANY et al.</b>		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 10 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

**1. Basis of the report**

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing :

☒ contained in the international application in written form.

☒ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☒ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☒ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☒ **Unity of invention is lacking** (see Box II).

**4. With regard to the title,**

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

**5. With regard to the abstract,**

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

**6. The figure of the drawings to be published with the abstract is Figure No.**

☐ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

☐ None of the figures.

# INTERNATIONAL SEARCH REPORT

International application No.

PCT/US 99/ 15871

## Box I Observations where certain claims were found unsearchable (Continuation of item 1 of first sheet)

This International Search Report has not been established in respect of certain claims under Article 17(2)(a) for the following reasons:

1. ☐ Claims Nos.:  
because they relate to subject matter not required to be searched by this Authority, namely:
2. ☐ Claims Nos.:  
because they relate to parts of the International Application that do not comply with the prescribed requirements to such an extent that no meaningful International Search can be carried out, specifically:
3. ☐ Claims Nos.:  
because they are dependent claims and are not drafted in accordance with the second and third sentences of Rule 6.4(a).

## Box II Observations where unity of invention is lacking (Continuation of item 2 of first sheet)

This International Searching Authority found multiple inventions in this international application, as follows:

see additional sheets

1. ☒ As all required additional search fees were timely paid by the applicant, this International Search Report covers all searchable claims.
2. ☐ As all searchable claims could be searched without effort justifying an additional fee, this Authority did not invite payment of any additional fee.
3. ☐ As only some of the required additional search fees were timely paid by the applicant, this International Search Report covers only those claims for which fees were paid, specifically claims Nos.:
4. ☐ No required additional search fees were timely paid by the applicant. Consequently, this International Search Report is restricted to the invention first mentioned in the claims; it is covered by claims Nos.:

### Remark on Protest

- ☐ The additional search fees were accompanied by the applicant's protest.
- ☒ No protest accompanied the payment of additional search fees.

## FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

This International Searching Authority found multiple (groups of) inventions in this international application, as follows:

1. Claims: 1-6,13-18 all partially

Nucleic acid fragments encoding barley cellulose synthase, and corresponding polypeptide as represented by SEQ ID NOs:1 and 2, fragments encoding amino acid sequence 90% identical thereto, transformed hosts containing and methods for obtaining said sequences, methods for altering expression and methods for evaluating inhibitors using said sequences.

2. Claims: 1-6,13-18 all partially and 7-12 all completely

Nucleic acid fragments encoding corn cellulose synthase, and corresponding polypeptide as represented by SEQ ID NOs:3-10, fragments encoding amino acid sequence 90% identical thereto, transformed hosts containing and methods for obtaining said sequences, methods for altering expression and methods for evaluating inhibitors using said sequences.

3. Claims: 1-6,13-18 all partially

Nucleic acid fragments encoding rice cellulose synthase, and corresponding polypeptide as represented by SEQ ID NOs:11 and 12, fragments encoding amino acid sequence 90% identical thereto, transformed hosts containing and methods for obtaining said sequences, methods for altering expression and methods for evaluating inhibitors using said sequences.

4. Claims: 1-6,13-18 all partially

Nucleic acid fragments encoding soybean cellulose synthase, and corresponding polypeptide as represented by SEQ ID NOs:13-18, fragments encoding amino acid sequence 90% identical thereto, transformed hosts containing and methods for obtaining said sequences, methods for altering expression and methods for evaluating inhibitors using said sequences.

5. Claims: 1-6,13-18 all partially

Nucleic acid fragments encoding wheat cellulose synthase, and corresponding polypeptide as represented by SEQ ID NOs:19-22, fragments encoding amino acid sequence 90% identical thereto, transformed hosts containing and methods for obtaining said sequences, methods for altering expression and methods for evaluating inhibitors using said sequences.

6. Claim : 18 partially

FURTHER INFORMATION CONTINUED FROM PCT/ISA/ 210

Method for evaluating a compound for inhibitory activity on cellulose synthase comparing activity of cellulose synthase produced in a transformed host with and without the addition of the compound, not covered by any of the previous groups of claimed inventions 1-5.

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International Application No

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## A. CLASSIFICATION OF SUBJECT MATTER

IPC 7 C12N15/54 C12N1/21 C12N9/10 C12Q1/48 C12Q1/68

According to International Patent Classification (IPC) or to both national classification and IPC

## B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C12N C12Q

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

## C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 98 00549 A (WILLIAMSON RICHARD EDWARD ; PENG LIANGCAI (AU); ARIOLI ANTONIO (AU)) 8 January 1998 (1998-01-08) see SEQ ID NOs:1-12 --- -/-	1,2,4-7, 10-17

☒ Further documents are listed in the continuation of box C.☒ Patent family members are listed in annex.

## ° Special categories of cited documents :

- \*A\* document defining the general state of the art which is not considered to be of particular relevance
- \*E\* earlier document but published on or after the international filing date
- \*L\* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- \*O\* document referring to an oral disclosure, use, exhibition or other means
- \*P\* document published prior to the international filing date but later than the priority date claimed

- \*T\* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- \*X\* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- \*Y\* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- \* & \* document member of the same patent family

Date of the actual completion of the international search

9 February 2000

Date of mailing of the international search report

23. 02. 00

Name and mailing address of the ISA

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Authorized officer

Maddox, A

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	<p>ARIOLI, T., ET AL.: "Arabidopsis thaliana cellulose synthase catalytic subunit (RSW1) gene complete cds"  EMBL ACCESSION NO:AF027172,  3 February 1998 (1998-02-03), XP002124282  the whole document</p>	1,4-6, 13-17
X	<p>-&amp; ARIOLI, T. ET AL.: "Molecular analysis of cellulose biosynthesis in Arabidopsis"  SCIENCE,  vol. 279, 30 January 1998 (1998-01-30),  pages 717-720, XP002124283  the whole document</p>	6,13-17
X	<p>&amp; ARIOLI, T., ET AL.: "Cellulose synthase catalytic subunit"  TREMBL ACCESSION NO:048946,  1 June 1998 (1998-06-01),  ---</p>	
X	<p>ARIOLI, T., ET AL.: "Arabidopsis thaliana cellulose synthase catalytic subunit (Ath-A) mRNA, complete cds"  EMBL ACCESSION NO: AF027173,  3 February 1998 (1998-02-03), XP002129994  the whole document</p>	7,10-17
X	<p>-&amp; ARIOLI, T., ET AL.: "Molecular analysis of cellulose biosynthesis in Arabidopsis"  SCIENCE,  vol. 279, 30 January 1998 (1998-01-30),  pages 717-720, XP002124283  the whole document</p>	12-17
X	<p>&amp; ARIOLI, T., ET AL.: "CELLULOSE SYNTHASE CATALYTIC SUBUNIT."  TREMBL ACCESSION NO.048497,  1 June 1998 (1998-06-01),  ---</p>	
X	<p>ARIOLI, T., ET AL.: "Arabidopsis thaliana cellulose synthase catalytic subunit (Ath-B) mRNA, complete cds"  EMBL ACCESSION NO:AF027174,  3 February 1998 (1998-02-03), XP002124284  the whole document</p>	1,2,4,5, 13-17
X	<p>-&amp; ARIOLI T., ET AL.: "Molecular analysis of cellulose biosynthesis in Arabidopsis "  SCIENCE,  vol. 279, 30 January 1998 (1998-01-30),  pages 717-720, XP002124283  the whole document</p>	6,13-17
	<p>&amp; ARIOLI, T., ET AL.: "Cellulose synthase catalytic subunit"  TREMBL ACCESSION NO:048948,  1 June 1998 (1998-06-01),  ---</p>	
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## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category °	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WO 98 18949 A (CALGENE INC ;PEAR JULIE R (US); STALKER DAVID M (US); DELMER DEBOR) 7 May 1998 (1998-05-07) figures 3A-C,6A-E,7A-D ---	1,2,4-7, 10-17
X	PEAR, J.R., ET AL.: "Gossypium hirsutum cellulose synthase (celA2) mRNA, partial cds" EMBL ACCESSION NO:U58284, 13 December 1996 (1996-12-13), XP002124438	1,2,4-7, 10-17
X	-& PEAR, J.R., ET AL.: "HIGHER PLANTS CONTAIN HOMOLOGS OF THE BACTERIAL CELA GENES ENCODINGTHE CATALYTIC SUBUNIT OF CELLULOSE SYNTHASE" PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF USA, vol. 93, October 1996 (1996-10), pages 12637-12642, XP002061424	6,12-17
Y	see whole document particularly footnote left col page 12639  & PEAR, J.R., ET AL.: "Cellulose synthase fragment" TREMBL ACCESSION NO:P93156, 1 May 1997 (1997-05-01), ---	1,2,4-6
X	PEAR, J.R., ET AL.: "Gossypium hirsutum cellulose synthase (celA1) mRNA, complete cds" EMBL ACCESSION NO:U58283, 13 December 1996 (1996-12-13), XP002124439 the whole document	1,2,4-6, 13-17
X	-& PEAR, J.R., ET AL.: "HIGHER PLANTS CONTAIN HOMOLOGS OF THE BACTERIAL CELA GENES ENCODINGTHE CATALYTIC SUBUNIT OF CELLULOSE SYNTHASE" PROCEEDINGS OF THE NATIONAL ACADEMY OF SCIENCES OF USA, vol. 93, October 1996 (1996-10), pages 12637-12642, XP002061424 the whole document & PEAR, J.R. ET AL.: "Cellulose synthase" TREMBL ACCESSION NO:P93155, 1 May 1997 (1997-05-01), ---	6,13-17

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## INTERNATIONAL SEARCH REPORT

International Application No

PCT/US 99/15871

## C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	WU, L., ET AL.: "Arabidopsis thaliana cellulose synthase mRNA, partial cds" EMBL ACCESSION NO: AF062485, 18 May 1998 (1998-05-18), XP002129995 the whole document -& WU, L., ET AL.: "AraxCelA, a new member of cellulose synthase gene family from Arabidopsis thaliana (accession no. AF062485) (PGR 98-113)" PLANT PHYSIOLOGY 117:1125, July 1998 (1998-07), XP002130048 ---	7,10-17
X	DBEST DATABASE ID:37681, 2 December 1993 (1993-12-02), XP002124440 the whole document & SASAKI, T.: "Rice cDNA, partial sequence (R1814-1A)" EMBL ACCESSION NO:D24381, 29 November 1993 (1993-11-29), ---	1,2,4-6, 16,17
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